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AUTHOR Goecker, Allan D.
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ABSTRACT

The study described in the report was designed to determine the degree of acceptance that secondary school administrators, guidance counselors, vocational agriculture teachers, and students may give to alternative agribusiness education programs which could be offered in Indiana schools. A list of 20 vocational agribusiness subjects was incorporated in a survey instrument administered to a random sample of 1,089 Indiana grade 8 students, 92 teachers, 86 counselors, and 79 superintendents. The list of courses with survey results and findings are included in the report. Major findings were that the educators indicated that traditional agricultural subjects such as vocational agribusiness, corn production, small engines and welding, and farm management would best serve their students. However, the students expressed the least interest in vocational agribusiness and agricultural marketing courses. Student interest was strongest in small animal and horse management, forest and wildlife resources, landscaping and lawn care, and small engines and welding. As there were many variations in interest among the students, individual schools should determine local student opinion to supplement statewide results in vocational agribusiness program planning. (Author/MF)

ED122071

FINAL REPORT

**The Level of Administrator, Counselor and Student
Acceptability of Alternative Agri-Business Education
Programs in Indiana Secondary Schools**

Allan D. Goecker

Project No. 445-72-G

**Purdue University
School of Agriculture
West Lafayette, Indiana**

September 9, 1975

**State Board of
Vocational and Technical Education
Department of Public Instruction
Division of Vocational Education
State of Indiana**

VT 102662

**U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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INFORMATION SHEET

A. Kind of Project: (check one)

- | | |
|--------------------------------|--------------------------------|
| 1. <u> x </u> Experimental | 4. <u> </u> Demonstration |
| 2. <u> </u> Developmental | 5. <u> </u> Evaluative |
| 3. <u> </u> Pilot | 6. <u> </u> Exemplary |

B. Population

TYPE

Numbers

- A. Disadvantaged
B. Handicapped
C. Migrant
D. Minority
E. Combination of the above
F. Other Cross-Section - State
of Indiana

- A.
B.
C.
D.
E.
F. x

GROUP

1. Pre-school
2. Elementary
3. Junior High School
4. Middle School
5. Senior High School
6. Post Secondary
7. Adult
8. University
9. Employer
10. Employee
11. Citizens
12. Parents
13. Combination of the above 3, 4, 5

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13. x

LOCALITY (check the one which encompasses the locality involved)

- a. National
b. State
c. Region
d. District
e. County
f. Area
g. Community
h. School Corporation (LEA)

- a.
b. x
c.
d.
e.
f.
g.
h.

ABSTRACT

Goecker, A. D. The Level of Administrator, Counselor and Student Acceptability of Alternative Agri-Business Education Programs in Indiana Secondary Schools. Non-thesis Study, 1975, School of Agriculture, Purdue University.

The investigator distributed a survey questionnaire including a description of twenty different vocational agri-business subjects to randomly selected groups of Indiana eighth grade students, vocational agri-business teachers, guidance counselors and secondary school superintendents. The study was conducted to determine student interests in alternative agricultural subjects and to relate the student responses to those of teachers, counselors and administrators.

Educators indicated that traditional production agriculture subjects would best prepare students for careers in the agri-business fields. Students expressed strongest interests in related agricultural subject matter including small animal and horse management, landscaping and lawn care, small engines and welding and forest and wildlife resources. A one-way analysis of variance computer program was used to determine significant differences in educator responses for each item.

Results of the study may assist the state agri-business consultant staff in program planning. Local school districts may utilize the survey instrument to ascertain student interest in alternative agri-business subjects.

STATEMENT OF THE PROBLEM

A 1970 summary of Indiana secondary school agri-business education programs indicated that more than ninety percent of the agri-business courses provided education in production agriculture and agricultural mechanics. In contrast, a 1970 study of agricultural manpower needs in Indiana showed that more than one-half of the agricultural jobs required primary competencies in areas other than production agriculture and farm mechanics.

In 1971, junior high school students in ten communities in Indiana were studied to determine their primary interests in agri-business education. Student responses were as follows:

Agricultural Production.....	15%
Agricultural Supplies & Products.....	11%
Agricultural Mechanics.....	20%
Ornamental Horticulture.....	23%
Natural Resources and Forestry.....	31%

Considering the foregoing factors, one may conclude that agri-business education in Indiana has not reflected the major preferences of its potential consumers--junior high school students who will consider enrollment in high school agri-business courses. In addition, the emphasis in secondary school agri-business programs apparently has been somewhat different from the occupations assumed by high school agri-business graduates.

Agri-business education is one of many products available in the secondary school educational marketplace. This study was designed to determine the magnitude of secondary school administrator, guidance counselor, vocational agri-business teacher and student acceptance of

alternative agri-business education programs which could be offered in Indiana schools.

PRIORITY AREAS

There were four priority areas identified within the study.

These were:

A. An assessment of Indiana eighth grade student opinion of alternative agri-business subjects which could be offered in the high schools.

B. A survey of secondary school administrator attitudes toward the agri-business education programs operating procedures including alternative course offerings.

C. An investigation of secondary school guidance counselor attitudes toward alternative courses which could be included in the high school agri-business education program.

D. An assessment of vocational agri-business teacher opinions toward alternative subjects which could be included in high school agricultural education programs.

STRATEGIES

The investigator with input from the chief consultant of vocational agri-business education constructed a written description for each of twenty vocational agri-business subjects which could normally be included in a high school agriculture program. These descriptions were developed into a survey instrument which was administered to a stratified randomly selected sample of Indiana eighth grade students,

vocational agri-business teachers, high school guidance counselors and secondary school superintendents.

Data were tabulated utilizing standard computerized statistical programs including cross tabulation and analysis of variance models. Results were disseminated to secondary school superintendents, guidance counselors, vocational agri-business teachers and other educators.

ANALYSIS

Individuals asked to respond to the survey instrument were selected from the total population of Indiana eighth grade students, vocational agri-business teachers, high school guidance counselors and secondary school superintendents.

The total populations were stratified on a geographic basis and one quarter of each sample was randomly selected from each of four 23-county areas of the state. This method resulted in a dispersed survey input from all regions of the state. A total of 1,089 eighth grade students responded to the survey instrument. Four hundred and four students were located in urban-suburban school districts (In cities of 15,000 or greater) while 685 student responses were obtained from rural and small town schools. Approximately fifty students were surveyed in each of twenty-one schools.

Survey instruments were mailed to 100 school superintendents, guidance counselors and vocational agri-business teachers. Responses were received from 92 teachers, 86 counselors and 79 superintendents.

Basic tabulation of responses was accomplished through the use of a cross tabulation computer program. A one-way analysis of variance

program was employed to determine any significant differences among the responses of teachers, counselors and superintendent. The Student-Newman-Keuls post ANOV test was used to determine levels of significant differences.

FINDINGS

Among the more important results of the investigation are the following:

A. Educators--school superintendents, guidance counselors and vocational agri-business teachers--indicated that traditional agricultural subjects such as beginning vocational agri-business, corn production, small engines & welding and farm management would best serve their students. Eighth grade students expressed the least interest in beginning vocational agri business, advanced vocational agri-business and agricultural marketing courses.

B. More than 10% of the urban/suburban eighth grade students indicated interest in enrolling in small animal and horse management, forest and wildlife resources, small engines and welding, landscaping and lawn care and in agricultural cooperative education courses.

C. Eighth grade girls expressed greatest interest in small animal and horse management, forest and wildlife resources and landscaping and lawn care while boys indicated strongest interest in small engines and welding, forest and wildlife resources and small animal and horse management.

D. Much variation of interest was found among students in the twenty-one junior high schools surveyed. Consequently, individual

schools should determine local student opinion to supplement state-wide results in vocational agri-business program planning.

The reader is advised to review Tables A and B in Appendix A for a more extensive understanding of the findings of this study.

EVALUATION

The study was evaluated prior to conducting the survey and at the conclusion of the analysis by members of the state vocational agri-business education staff and by vocational agri-business teacher educators at Purdue University. Methodology utilized was found to be appropriate and the survey instrument was recommended for future use by local school districts who desire to determine student interest in various vocational agri-business subjects.

CONCLUSIONS AND RECOMMENDATIONS

The original goal of this project was to assess the interests of Indiana eighth grade students in alternative high school vocational agri-business subjects and relate the views of students to those of high vocational agri-business teachers, guidance counselors and secondary school superintendents. This major goal was accomplished and the results should assist the state vocational agri-business consultant staff in state-wide program planning.

An inherent problem of administering a survey instrument is that results only reflect respondent opinion at a particular point of time. To properly use data generated by an instrument of the type

used in this project, the study should be repeated in 3-4 year intervals to reflect any changes of respondent opinions. Also, local school districts should not solely use the state-wide results as a supportive structure to develop a local vocational agri-business program. Use of the survey instrument at the local level would be a far superior barometer of student interest compared to state-wide data.

FINANCIAL STATEMENT FOR FINAL REPORT ENDING

6/30/75

(Date)

Project Number 445-72-C

ITEMS	Project Budget FY 19		Total Expenditures on Project		End of Project Balance:	
	Agency	Federal	Agency	State/Federal	Agency	State/Federal
A. DIRECT EXPENDITURES						
1. Personnel		\$ 927.10		\$ 927.10		\$-0-
2. Contractual services						
3. Employee benefits				15.52		(15.52)
4. Travel		555.68		668.33		(112.65)
5. Supplies and materials (includes computer)		654.43		659.21		(4.78)
6. Communications (include phone calls, printing)		823.79		690.84		132.95
7. Properties (rentals or purchase of equip.)						
8. Facilities						
9. Product production and dissemination						
10. Project Evaluation						
B. INDIRECT EXPENDITURES						
C. TOTAL EXPENDITURES		\$2,961.00		\$2,961.00		\$-0-

Project Monitor

Director: A.R. Hilst
A.R. Hilst
LEA:

Purdue University

Financial Officer: *M. H. H. H.*

4/4/75

INTEREST IN VOCATIONAL AGRI-BUSINESS SUBJECTS — 1973 OPINIONS OF INDIANA SCHOOL SUPERINTENDENTS, GUIDANCE COUNSELORS, VOCATIONAL AGRI-BUSINESS TEACHERS AND 8th GRADE STUDENTS

by A. D. Goecker and D. W. Stewart

Indiana educators and 8th grade students expressed the following opinions regarding twenty vocational agri-business courses which, among others, could be included in a high school vocational agri-business education program.

IMPORTANT FINDINGS

- Educators — school superintendents, guidance counselors and vocational agri-business teachers — indicated that traditional agricultural subjects such as beginning vocational agri-business, corn production, small engines & welding and farm management would best serve their students. 8th grade students expressed least interest in beginning vocational agri-business, advanced vocational agri-business and agricultural marketing.
- More than 10% of the urban/suburban 8th grade students indicated interest in enrolling in small animal & horse management, forest and wildlife resources, small engines & welding, landscaping and lawn care and agricultural cooperative education.
- 8th grade girls expressed greatest interest in small animal and horse management, forest & wildlife resources and landscaping & lawn care while boys indicated strongest interest in small engines & welding, forest & wildlife resources and small animal and horse management.
- Much variation of interest was found among students in the twenty-one junior high schools surveyed. Consequently, individual schools should determine local student opinion to supplement state-wide results in vocational agri-business program planning.

The foregoing results and the data presented later in this report were gathered from randomly selected Indiana educators and 8th grade students.

A total of 1089 8th grade boys and girls responded to the questionnaire presented on page 4. Four hundred and four of the students were located in urban/suburban school districts (In cities of 15,000 or greater) while 685 student responses were obtained from rural and small town schools. Approximately fifty students were surveyed in each of the twenty-one schools.

Educators responded to the same survey as the students. Questionnaires were mailed to 100 randomly selected Indiana school superintendents, guidance counselors and vocational agri-business teachers. Responses were received from ninety-two teachers, eighty-six counselors and seventy-nine superintendents.

The study was conducted on the basis of a grant from the Indiana Board of Vocational & Technical Education to determine state-wide priorities for offering alternative courses in vocational agri-business education. Results are particularly valuable to supervisory and teacher education personnel in establishing program priorities which are consistent with the needs expressed by local educators and students.

**TABLE A ALTERNATIVE VOCATIONAL AGRI-BUSINESS EDUCATION COURSES
RANKED BY INDIANA 8TH GRADE STUDENTS, SCHOOL SUPERINTENDENTS,
GUIDANCE COUNSELORS and VOCATIONAL AGRI-BUSINESS TEACHERS**

COURSES	If you could, which subjects would you like to take in high school?				Which subjects would best serve students in your high school?		
	Urban/Suburban		Rural/Town		Vo-Ag Teachers	School Supts.	Guidance Counselors
	Girls	Boys	Girls	Boys			
	rank*		rank*		rank*		
Corn Production	18	13	12	10	2	7	4
Small Grain Production	14	17	15	15	14	11	8
Small Engines and Welding	9	1	9	1	3	2	3
Fruit & Vegetable Production	5	11	4	15	19	17	18
Small Animal and Horse Management	1	3	1	3	18	18	19
Greenhouse Management	6	13	5	12	20	19	20
Beef Production	10	9	8	4	7	9	5
Agricultural Construction	14	10	20	9	11	14	11
Farm Management	14	13	13	11	5	3	2
Dairy Production	7	11	11	14	15	20	17
Agricultural Power	14	4	13	6	6	6	6
Land and Water Resources	8	5	7	8	13	4	7
Agricultural Marketing	11	20	20	20	12	8	13
Landscaping and Lawn Care	4	6	3	6	16	5	16
Advanced Vocational Agri-Business	20	18	15	20	10	15	12
Agricultural Machinery	13	8	15	4	8	13	9
Forest and Wildlife Resources	2	2	2	2	17	16	15
Beginning Vocational Agri-Business	20	18	15	18	1	1	1
Hog Production	12	16	9	13	4	12	10
Agricultural Cooperative Education	3	6	6	17	9	10	14

* "1" represents top priority for each group.

**TABLE B THE PERCENTAGE OF INDIANA 8TH GRADE STUDENTS WHO
EXPRESSED INTEREST IN ENROLLING IN ALTERNATIVE HIGH SCHOOL
VOCATIONAL AGRI-BUSINESS COURSES**

COURSES	If you could, which subjects would you like to take in high school?			
	Urban/Suburban Students		Rural/Small Town Students	
	Girls n=193	Boys n=211	Girls n=258	Boys n=427
	%	%	%	%
Corn Production	0.5	2.4	1.6	6.6
Small Grain Production	1.0	1.4	0.8	3.5
Small Engines & Welding	5.2	46.4	3.1	41.5
Fruit & Vegetable Production	9.8	3.3	10.9	3.5
Small Animal & Horse Management	60.1	22.3	53.1	18.7
Greenhouse Management	7.3	2.4	10.5	4.9
Beef Production	4.1	7.1	3.5	12.4
Agricultural Construction	1.0	6.6	0.4	6.8
Farm Management	1.0	2.4	1.2	6.3
Dairy Production	6.2	3.3	2.3	3.7
Agricultural Power	1.0	11.8	1.2	11.7
Land & Water Resources	5.7	9.0	4.7	8.4
Agricultural Marketing	3.1	0.0	0.4	0.5
Landscaping & Lawn Care	13.5	8.5	13.6	11.7
Advanced Vocational Agri-Business	0.0	0.9	0.8	0.5
Agricultural Machinery	1.6	8.1	0.8	12.4
Forest & Wildlife Resources	23.3	22.7	20.5	20.4
Beginning Vocational Agri-Business	0.0	0.9	0.8	1.6
Hog Production	2.6	1.9	3.1	4.7
Agricultural Cooperative Education	17.6	8.5	9.7	2.1

RESULTS IN TABLE A.

Table A on page 2 shows how four groups of Indiana 8th grade students and three groups of educators ranked twenty agri-business education courses in serving students.

Students were asked the question, "If you could, which subjects would you like to take in high school?" Students could check none or any number of the twenty courses. Courses ranked "1st" in Table A were selected by the greatest percentage of each group.

Educators were requested to respond to the question, "Which subjects would best serve students in your high school(s)?" by ranking the courses from 1 to 20. Summaries are presented in Columns 5-7 in Table A.

RESULTS IN TABLE B.

Table B, shown above, indicates the percentage of 8th grade students who expressed interest in enrolling in alternative vocational agri-business courses. Descriptions of courses considered by the students who were surveyed are presented on page 4.

One may note the similarities and differences among 8th grade boys and girls in urban/suburban and rural small town schools.

AGRICULTURAL SUBJECTS

CORN PRODUCTION — Students learn the proper methods to use to grow corn. Time is spent in studying how to select the correct hybrids, how much fertilizer to apply, when to plant, how to control insects and weeds and how to harvest and store this crop.

SMALL GRAIN PRODUCTION — This course teaches one how to grow soybeans, wheat, oats, rye and barley. Students learn which varieties to plant and how to properly prepare the land and fertilize it. Time is also spent in studying insect, weed and disease control for these plants.

SMALL ENGINES & WELDING — Students learn how to use arc and gas welders and make welding projects. One-half of the course is used to teach students how small gasoline engines operate and the proper care and repair of small engines.

FRUIT & VEGETABLE PRODUCTION — This course teaches one how to grow fruit and vegetable crops. Students learn which kinds should be planted, when to plant and how to control weeds, insects and diseases. Students also study the proper harvesting of fruit and vegetable crops.

SMALL ANIMAL & HORSE MANAGEMENT — This course teaches students how to properly house, feed, water and care for horses and small animals such as dogs and cats. Students learn to identify breeds, study food requirements, and control parasites and diseases of these animals.

GREENHOUSE MANAGEMENT — Students learn how to grow crops in the greenhouse. Students study how to provide proper lighting, fertilizer and water for greenhouse flowers and vegetables. Time is also spent on harvesting and selling greenhouse crops.

BEEF PRODUCTION — The purpose of this course is to show students how to properly raise beef cattle. Students learn to judge animals and how to properly feed them. Students also study housing needs, parasite control, disease control and various uses of beef cattle.

AGRICULTURAL CONSTRUCTION — Students learn how to plan and build farm equipment and buildings. Students learn to select proper building materials, cut these materials, fasten parts together and select and apply the proper paint or finish.

FARM MANAGEMENT — Students learn how to put together the resources of land, manpower and money to plan a farming program. Students are shown how to balance the farm with the correct amount of crops and livestock to best use the land and manpower which is available.

DAIRY PRODUCTION — This course is designed to show students the proper methods of raising dairy cattle. Students learn how to select dairy animals and properly feed them. Time is also spent on the equipment needed to raise animals and how to control dairy cattle diseases.

AGRICULTURAL POWER — Students study how farm tractors and electric motors operate. Shop time is used to take tractor engines and electric motors apart, make adjustments and repairs and properly put the engine or motor together.

LAND & WATER RESOURCES — In this class students learn to identify various soil types and how land and soils are best used. Time is also spent in studying water. Students learn the methods that are being used to control water supplies and reduce water pollution.

AGRICULTURAL MARKETING — Students learn how farm and food products are handled between the time they are produced on the farm and when they are purchased in the supermarket. Students study the harvesting, storage, processing and transportation of food products between farm and city.

LANDSCAPING & LAWN CARE — Students learn how to identify and properly take care of common flowers, trees, shrubs and grass. One learns how to control pests which attack these plants. Students also learn how to draw simple landscape plans.

ADVANCED VOCATIONAL AGRI-BUSINESS — This course includes the study of advanced crop and livestock management. Students learn how to plan farms, keep records and also repair tractors and farm machines. Time is also spent in studying crop and livestock disease control.

AGRICULTURAL MACHINERY — This course teaches students how farm machines such as plows, disks, mowers, planters, cultivators and combines operate. Shop time is spent in putting together, adjusting and repairing these machines.

FOREST & WILDLIFE RESOURCES — This course shows students the importance and proper use of our forest and wildlife resources. Students learn to identify and study the food and water requirements of forest and wildlife resources.

BEGINNING VOCATIONAL AGRI-BUSINESS — It is a general course which includes beginning study of farm animals, soils, FFA, record keeping, farming programs and farm mechanics. Students judge crops, soils and livestock and develop a plan for a farming program.

HOG PRODUCTION — Students learn the correct methods which are used to raise hogs. Breeds are studied and students learn to select animals. Time is also spent in studying housing, proper feeding, parasite control and disease control. Several methods of raising hogs are compared.

AGRICULTURAL COOPERATIVE EDUCATION — This course is offered to high school seniors. Students under the direction of the teacher are placed in agricultural jobs in the community for half-days during the senior year to learn skills on-the-job and also earn money and credits for graduation.